Southwestern Bell Plans Major Launch of New Lightning-Fast Service for Data, Internet Access

Parent Company SBC Announces Largest Deployment of ADSL in the U.S. and Major Price Drop to Make Service Affordable for Millions of Customers

San Antonio, Texas, January 12, 1999

Regulatory decisions key to scope of deployment

For up-to-the-minute news, visit http://www.swbell.com/dsl

The wait for affordable, high-speed, high-bandwidth Internet access may be near an end for millions of consumers and businesses. Southwestern Bell today announced plans to offer lightning-fast Internet and data access service in its five-state region beginning this year and today is filing the necessary tariffs with the Federal Communications Commission.

The launch of Asymmetrical Digital Subscriber Line (ADSL) in Southwestern Bell's five-state region of Texas, Missouri, Oklahoma, Arkansas and Kansas is part of a broader plan by SBC Communications, Southwestern Bell's parent company, to undertake the largest ADSL offering in the United States. By the end of 1999, SBC intends to deploy ADSL in 526 central offices, which will enable it to provide ADSL service to 8.2 million residential and 1.3 million business customers. In California, Pacific Bell has announced that it will triple its current ADSL deployment and significantly lower the price of monthly service, installation and equipment. Connecticut-based SNET has filed with regulators to trial the service in that state beginning this month.

The company's long-range plans for offering ADSL service depend to some extent on forthcoming federal regulations. The speed and breadth of deployment will be affected by new rules the FCC is expected to issue in February outlining how regional Bell companies may offer advanced services such as ADSL. If current regulatory burdens are eased, the company would be able to accelerate deployment.

Southwestern Bell plans to offer "always on" ADSL service with guaranteed connection speed for as low as $39 a month, subject to FCC approval. In addition, Southwestern Bell Internet Services will offer Internet access with ADSL service for a combined price of as low as $49 per month. Equipment and installation will be available from Southwestern Bell for a one-time charge as low as $198.

By making the service widely available at an affordable price, Southwestern Bell will make high-speed Internet access a viable option for millions of households and small businesses who are looking for greater bandwidth to make the most of the Internet or to connect to an enterprise or corporate network from home.

"Southwestern Bell would like to move fast in 1999 to provide a high-speed data service that our customers have been waiting for," said John Atterbury, president of Southwestern Bell. "We want Southwestern Bell ADSL service to become the high-speed Internet access of choice for millions of customers in our five-state region."

Competition to provide affordable, high-speed communications services used for Internet access and other computer applications is heating up. Southwestern Bell believes that demand for ADSL will soar once service is widely available and affordable. In fact, DataQuest, a market research company, predicts the number of ADSL subscribers to expand from 50,000 now to five million worldwide by 2002.

Southwestern Bell intends to deploy ADSL in 271 central offices which will enable it to provide high-speed Internet access to 3.2 million residential customers and 440,000 business customers, or more than 37 percent of its customers. If federal regulators issue favorable rules for delivering broadband services, Southwestern Bell could be making ADSL available by the end of this year in the company's major markets of Austin, Dallas, Houston, Kansas City, Little Rock, Oklahoma City, Tulsa, San Antonio and St. Louis.

ADSL: A Better Broadband Solution

With the $39 per month ADSL service, customers can simultaneously use a phone or a fax machine while getting downstream connection speeds up to 1.5 megabits per second-50 times faster than today's common 28.8 analog modems-and an upstream connection speed of 128 Kilobits per second. (Downstream throughput speeds will vary depending on the customer's distance from the central office and other factors, but the connection speed will be at a guaranteed minimum of 384 Kbps.)

For customers in need of higher speeds, Southwestern Bell will offer a package with downstream connection 200 times faster than today's 28.8 Kbps modems with speeds up to 6

Mbps and an upstream connection speed of 384 Kbps. Downstream connection speeds will be at a guaranteed minimum of 1.5 Mbps.

In addition to downloading data, graphics, audio and video, ADSL's speed transforms e-commerce transactions by creating faster responses for online traders and buyers, faster information exchanges between business partners and faster online sales.

When compared to cable modems, ADSL ensures greater reliability, better security and more consistent speeds, experts say, because the service is delivered via a dedicated line from a central office to the individual user's home or office. ADSL's "always on," dedicated connection provides a high degree of security and reliability for e-commerce, online banking and Internet trading, and enables customers to immediately surf the Internet or launch applications without waiting for a dial-up connection to be established. In addition, Southwestern Bell's ADSL service will run on the Southwestern Bell network, one of the most reliable in the world. And customers who choose Southwestern Bell Internet Services as their Internet service provider will surf on one of the country's most sophisticated Internet backbones and benefit from award-winning service and support.

Regulatory Factor

"Southwestern Bell's objective is to offer ADSL to as many of our customers as possible, both business and residential," said Atterbury. "But regulations will play a part in how quickly we can do it."

In December, SBC joined dozens of telecommunications and computer companies asking the FCC to adopt 10 proposals designed to accelerate the delivery of new broadband services. The proposals include concessions for competitive telecommunications carriers who want to use Southwestern Bell's network to offer their own broadband services. Southwestern Bell's ADSL service will be available to competitors and Internet service providers for resale at the tariffed rate.

The company anticipates that it will make an announcement in upcoming weeks regarding the timing of ADSL availability. In the meantime, customers can get more information at **http://www.swbell.com/dsl** or call 1-888-SWB-DSL1.

A Leader in Bandwidth

SBC has been a leader in the development of ADSL. Last year, the company completed joint initiatives with Dell Computer Corp. and Compaq Computer to promote more convenient access to ADSL.

In California, where Pacific Bell launched ADSL service last summer, the company is expanding the largest single-state deployment of ADSL to 255 central offices which will enable it to provide ADSL service to approximately five million residential households and 900,000 businesses. Pacific Bell also will offer ADSL at the same low prices as Southwestern Bell.

In Connecticut, SNET has filed plans with regulators to initiate a service trial in three cities, and two additional towns to be named later. The trial is set to begin later this month.

Southwestern Bell Telephone Co., Southwestern Bell Internet Services, Pacific Bell and SNET are companies of SBC Communications Inc. (www.sbc.com) is a global leader in the telecommunications industry, with more than 36.9 million access lines and 6.5 million wireless customers across the United States, as well as investments in telecommunications businesses in 11 countries. Under the Southwestern Bell, Pacific Bell, SNET, Nevada Bell and Cellular One brands, SBC, through its subsidiaries, offers a wide range of innovative services. SBC offers local and long-distance telephone service, wireless communications, data communications, paging, Internet access, and messaging, as well as telecommunications equipment, and directory advertising and publishing. SBC has approximately 129,000 employees and its annual revenues rank it in the top 50 among Fortune 500 companies.

Public Utility Commission of Texas

1701 N. Congress Avenue
P. O. Box 13326
Austin, Texas 78711-3326
512 / 936-7000 • (Fax) 936-7003
Web Site: www.puc.state.tx.us

W. Lane Lanford
Executive Director

Pat Wood, III
Chairman

Judy Walsh
Commissioner

Brett A. Perlman
Commissioner

To: James Galloway, Filing Clerk
Central Records Division

From: Rowland Curry, Arbitrator RC
Office of Policy Development

Katherine Farroba, Arbitrator KF
Office of Policy Development

Date: November 30, 1999

Subject: Docket No. 20226 – Petition of Rhythms Links, Inc. for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company;

Docket No. 20272 – Petition of DIECA Communications, Inc. d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms, Conditions and Related Arrangements with Southwestern Bell Telephone Company.

Please find an original and 30 copies of the Arbitration Award and Attachment A for filing in the above dockets. The following confidential attachments that will not be filed with central records:

Attachment B: Confidential References in Award (1 page)

Attachment C: Revised Shielded Cross Connect Cost Study (3 pages)

Attachment D: Revised Conditioning Cost Study for xDSL Loops greater than 12,000 feet but less than 18,000 feet in Length (2 pages)

Attachment E: Revised Conditioning Cost Study for xDSL Loops at or in Excess of 18,000 feet in Length (2 pages)

cc: Parties of Record

DOCKET NO. 20226

PETITION OF RHYTHMS LINKS, INC.	**§**	
FOR ARBITRATION TO ESTABLISH AN	**§**	**PUBLIC UTILITY COMMISSION**
INTERCONNECTION AGREEMENT	**§**	
WITH SOUTHWESTERN BELL	**§**	**OF TEXAS**
TELEPHONE COMPANY	**§**	

DOCKET NO. 20272

PETITION OF DIECA	**§**	
COMMUNICATIONS, INC., d/b/a COVAD	**§**	**PUBLIC UTILITY COMMISSION**
COMMUNICATIONS COMPANY FOR	**§**	
ARBITRATION OF INTERCONNECTION	**§**	**OF TEXAS**
RATES, TERMS, CONDITIONS AND	**§**	
RELATED ARRANGEMENTS WITH	**§**	
SOUTHWESTERN BELL TELEPHONE	**§**	
COMPANY	**§**	

ARBITRATION AWARD

Table of Contents

I. SUMMARY OF PROCEEDINGS

On December 11, 1998, and December 21, 1998, Accelerated Communications, Inc. (Rhythms)[1] and DIECA Communications, Inc. d/b/a Covad Communications Company (Covad), respectively (collectively referred to as Petitioners), filed petitions[2] to establish interconnection agreements with Southwestern Bell Telephone Company (SWBT) pursuant to section 252(b) of the federal Telecommunications Act of 1996 (FTA).[3] In order to reduce administrative burdens, the two petitions were consolidated under FTA § 252(g). The hearing on the merits convened on April 14, 1999, and continued through April 16, 1999, at which time the Arbitrators recessed the hearing for six weeks to allow the Parties time to conduct further discovery after it was determined that SWBT had not fully responded to Petitioners' discovery requests.

Following the Arbitrators' decision to extend the discovery period, Petitioners requested an interim order requiring interconnection to prevent any delay in Petitioners' entry into the Texas xDSL market.[4] The Arbitrators issued an interim order,[5] which was subsequently appealed by SWBT.[6] At the May 20, 1999 open meeting, the Commission encouraged the Parties to come to a timely agreement in order to implement the interim order. SWBT and Petitioners implemented interim interconnection agreements on June 2, 1999.

---

[1] Accelerated Communications, Inc. (ACI) has since changed its name to Rhythms Links, Inc. (Rhythms), Letter to All Parties Re: Notice of Name Change to Rhythms Links (April 30, 1999); Order No. 24, Recognizing Name Change (Oct. 8, 1999). Throughout this Award, ACI will be referred to as Rhythms. References to pleadings shall reflect the actual name of the Party at the time they were filed.

[2] Petition of Accelerated Communications, Inc. for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company, Docket No. 20226 (Dec. 11, 1998); Petition of DIECA Communications, Inc., d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms, Conditions and Related Arrangements with Southwestern Bell Telephone Company, Docket No. 20272 (Dec. 21, 1998).

[3] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 151 et seq. (FTA).

[4] ACI's Letter to Judges Farroba and Curry Regarding an Interim Order (April 16, 1999); List of Interim Steps the Commission Should Require SWBT to Implement to Prevent the Delay in the Arbitration from Further Delaying Covad's Ability to Bring Competitive DSL Services to Texas (April 21, 1999).

[5] Order No. 5, Interim Order (April 26, 1999).

[6] SWBT's Appeal of Order No. 5 Interim Order (May 11, 1999).

Following the six-week recess, the hearing on the merits reconvened on June 2, 1999, continuing until completed on June 5, 1999.

This arbitration proceeding has been conducted in accordance with P.U.C. PROC. R. 22.301 - 22.310. The scope of the issues addressed in this arbitration proceeding is limited to the decision point list (DPL)[7] developed by the Parties.

Ruling on Disputed Issues

The issues in the final DPL are grouped into the following six areas: (1) policy, terms and conditions; (2) spectrum management; (3) provisioning; (4) collocation; (5) costs, rates and prices; and (6) miscellaneous. In this Award, each DPL issue is restated, along with a brief summary of the Parties' positions, followed by the Arbitrators' ruling. As required by P.U.C. PROC. R. 22.305(s), an explanation of the Arbitrators' rationale for each of the rulings is provided.

The Arbitrators find that the following decisions and rates, terms and conditions imposed on the Parties by this Award meet the requirements of FTA § 251 and P.U.C. PROC. R. 22.301-22.310 and any applicable regulation prescribed by the Federal Communications Commission (FCC) pursuant to FTA § 251. This Award establishes terms and conditions, including rates, for interconnection, services, and network elements according to the standards set forth in FTA § 252(d). A schedule for implementation of the rates, terms and conditions of this Award is set forth in Section VIII.

---

[7] Revised Decision Point Matrix (DPL) (May 28, 1999).

I. Policy, Terms and Conditions

DPL Issue Nos. 1-7, 9-10

1. How should a 2-wire xDSL capable loop be defined?

Parties' Positions

Rhythms asserts that SWBT must be ordered to provide a single type of "clean copper" xDSL UNE loop, on which Rhythms can deploy any xDSL technology permitted by the *Advanced Services Order*[8] and/or any order of this Commission.[9] Rhythms' proposed DSL-capable loop is described as follows:[10]

- The loop should be a clean copper loop, with no load coils and a minimum of bridge taps of up to 2,500 feet;
- The loop may contain repeaters at Rhythms' option;
- For DSL services other than IDSL, the loop cannot be part of a digital loop carrier system ("DLC");
- The loop cannot have Digital Added Main Line ("DAML") technology;
- The loop cannot be "categorized" based on loop length in an attempt to impose an artificial restriction on service placed over the loop and artificial limitations cannot be placed on the length of DSL-capable UNE loops;
- The loop should be provisioned to meet basic metallic and electrical characteristics such as electrical conductivity and capacitive and resistance balance; and
- If SWBT is allowed to place limitations on the loop type and xDSL services, it must comply with existing or future national standards as articulated by the American National Standards Institute ("ANSI"), or other national forum, and SWBT cannot restrict Rhythms' use of the loop within these standards.

Rhythms' proposed definition of a 2-wire xDSL Capable Loop is:

---

[8] *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, First Report and Order and Further Notice of Proposed Rulemaking, FCC 98-48, (rel. Mar. 31, 1999) (*Advanced Services Order*).

[9] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 14-18 (Feb. 19, 1999).

[10] *Id.* at 1718; ACI's Post-Hearing Brief at 17-26 (Aug. 17, 1999).

> A "2-wire xDSL Capable Loop" for purposes of this Section is a loop from a customer premises to a SWBT Central Office, provisioned using copper facilities from the customer premises to the SWBT Central Office. The loop will have no load coils, and minimal bridge tap up to 2,500 feet. The loop may contain repeaters at [Rhythms'] option. If a portion of the loop must be provisioned using fiber optic facilities due to the exhaustion of copper facilities, even after regrooming, [Rhythms] shall have the right to place appropriate equipment, such as digital subscriber line access multiplexing equipment, at the fiber/copper interface point in SWBT's loop plant. The Parties acknowledge that [Rhythms] may use a variety of xDSL technologies to provision services using a 2-wire xDSL-Capable Loop.[11]

According to Rhythms, this "one size fits all" clean copper loop will promote innovation and customer choice.[12] Rhythms objects to SWBT's proposed seven different xDSL-Capable loop offerings. Rhythms argues that SWBT's proposed language violates the *Advanced Services Order* because a single loop type for xDSL services is technically feasible.[13]

In addition to the disagreement regarding the provision of "one size fits all" xDSL loops, Rhythms opposes SWBT's inclusion of language regarding spectrum compatibility and management in the definition of the 2-Wire xDSL-Capable Loop.[14] Rhythms further argues that SWBT should be required to perform a "line and station transfer" in the event that a potential Rhythms customer is served on a loop that contains fiber optic facilities (DLC or DAML), in order to allow another copper pair, if available, to extend directly to the customer.

Covad's proposed definition is:

> A 2-wire xDSL capable loop (xDSL Loop) for purposes of this Section, is a loop which supports the transmission of Digital Subscriber Line (DSL) technologies. The loop is a transmission path from a customer premises to a SWBT Central office where a CLEC has located appropriate associated equipment, including a cross connect cable from the Main Distributing Frame (MDF) to the associated equipment point of termination. The loop is an upgrade to the Basic Link having

---

[11] First Amended Petition of ACI, Attachment 6 (Jan. 22, 1999).

[12] ACI's Post-Hearing Brief at 22 (Aug. 17, 1999).

[13] *Id.* at 24 (Aug. 17, 1999); ACI Exhibit 9, Rebuttal Testimony of Mike Kersh at 6-7 (April 8, 1999).

[14] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 28-32 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 20 (Feb. 19, 1999). Spectrum management and compatibility issues are discussed in Section III of this Award.

> no mid-span repeaters or other electronics and no greater loss than 38dB end-to-end measured at 40,000 Hz with 135 ohms at the central office POI and 135 ohms at the MPOE. This loop will not have any load coils or bridged taps within limits defined by the specification applicable to ISDN loops.[15]

Covad contends that in order to provision most of its xDSL services, including ADSL and SDSL, it "merely needs a clean copper loop that is not too long."[16] Currently, Covad requires loops that are less than 15,000 feet in length, unless providing IDSL, for which Covad can provision service over loops up to 40,000 feet in length.[17]

SWBT's amended proposed definition is:

> The term digital subscriber line ("DSL") describes various technologies and services. The "x" in xDSL is a place holder for the various types of DSL services, such as ADSL (asymmetric digital subscriber line), HDSL (high-speed digital subscriber line), UDSL (universal digital subscriber line), VDSL (very high-speed digital subscriber line), and RADSL (rate-adaptive digital subscriber line). The provision of DSL services is subject to a variety of important technical constraints, including subscriber loop length and the quality of the loop, which must be free of excessive bridged taps, loading coils, and other devices commonly used to aid in the provision of analog voice and data transmission, but which interfere with the provision of DSL services. In addition, clear spectral compatibility standards and spectrum management rules and practices are necessary both to foster competitive deployment of innovative technologies and to ensure the quality and reliability of the public telephone network. The Parties will comply with the FCC's rules on spectrum compatibility and management that enable the reasonable and safe deployment of advanced services prior to the development of industry standards.[18]

At the time the initial request for arbitration was filed, SWBT proposed a definition that Petitioners interpreted to limit them to the provision of only ADSL service over xDSL loops. On March 30, 1999, SWBT amended its proposed contract language, explaining that the xDSL loop

---

[15] First Amended Petition of Covad, Proposed Contract Language (Jan. 20, 1999).

[16] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5 (Feb. 19, 1999).

[17] *Id.* at 6.

[18] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh, Schedule 2, Section I (March 30, 1999).

offering was being expanded to allow competitive local exchange carriers (CLECs) to deliver a variety of high-speed data access options over SWBT's network.[19]

In addition to the basic proposed definition above, SWBT's revised contract language proposal contains seven different xDSL-Capable loop offerings, as follows:[20]

A. xDSL-Capable Loops used with xDSL Technology which complies with Existing Industry Standards.
    1. 2-Wire ADSL-Capable loop
    2. 2-Wire Very Low-band Symmetric Technology Capable Loop
    3. 2-Wire Mid-band Symmetric Technology Capable Loop
    4. 4-Wire Mid-band Symmetric Technology Capable Loop
    5. Other Industry Standard DSL-capable loops

B. Non-Standard DSL-Capable Loops.
    1. Approved or successfully deployed non-standard xDSL technologies
    2. Other Non-standard xDSL technologies

SWBT maintains that it must define these seven loop types in order to allow CLECs to efficiently obtain loops for chosen xDSL services while still allowing SWBT to meet its obligations to inventory and manage the network. SWBT opposes any attempt by a CLEC to obtain a universal xDSL "clean copper loop," asserting that such requests are simplistic and erroneous.[21] According to SWBT witness Mr. Deere, SWBT does not agree with Rhythms' definition of a clean copper loop, since SWBT believes "that the interference is a major component of providing a loop that is capable of providing services."[22]

SWBT disagrees with Petitioners' proposed loop definitions that allow Petitioners to place digital subscriber line access multiplexing (DSLAM) equipment outside of the central office, at the fiber/copper interface point. SWBT indicates that ADSL loops may be available out of remote terminal (RT) sites, but that SWBT will have to work with CLECs to identify

---

[19] *Id.* at 7.

[20] *Id.* at Schedule 2, Section II-A and II-B.

[21] SWBT Exhibit 5, Direct Testimony of V. Allen Samson at 5 (Feb. 19, 1999).

[22] Tr. at 72 (April 14, 1999).

crosstalk and interference issues associated with RTs.[23] This issue is further addressed in DPL Issue No. 6.

Award

To evaluate the definition of an xDSL-capable loop, the Arbitrators begin with the definition of a local loop UNE. In the 1996 *Local Competition First Report and Order*,[24] the FCC concluded that "the local loop element should be defined as a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises." The FCC further found that this definition "includes, for example, two-wire and four-wire analog voice-grade loops, and two-wire and four-wire loops that are conditioned to transmit the digital signals needed to provide services such as ISDN, ADSL, HDSL, and DS1-level signals."[25]

In ¶¶ 383 and 384 of the *Local Competition First Report and Order*, the FCC further found that it is technically feasible to unbundle IDLC-delivered loops. The FCC stated:

> . . . incumbent LECs must provide competitors with access to unbundled loop types regardless of whether the incumbent LEC uses integrated digital loop carrier technology, or similar remote concentration devices, for the particular loop sought by the competitor. . . . If we did note require incumbent LECs to unbundle IDLC-delivered loops, end users served by such technologies would not have the same choice of competing providers as end users served by other loop types. Further, such an exception would encourage incumbent LECs to "hide" loops from competitors through the use of IDLC technology.

In its recent *UNE Remand Order*,[26] the FCC described DSL-capable loops as "loops capable of providing high-speed data services," "basic loops stripped of accreted devices, *i.e.*,

---

[23] SWBT Exhibit 2, Direct Testimony of William C. Deere at 21 (Feb. 19, 1999); SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 18 (April 8, 1999).

[24] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, FCC 96-325 (rel. Aug. 8, 1996) (*Local Competition First Report and Order*).

[25] *Local Competition First Report and Order* at ¶ 380.

[26] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, FCC 99-238 (rel. Nov. 5, 1999) (*UNE Remand Order*).

'conditioned' loops," "unencumbered copper wire," and "basic loops, with their full capacity preserved."[27]

The Arbitrators find that SWBT should not be allowed to limit the capabilities of xDSL services on an xDSL loop through unnecessarily complex definitions and restrictions. FTA § 706 requires the FCC and state commissions to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans ... by utilizing, in a manner consistent with the public interest, ... measures that promote competition in the local telecommunications market ... "[28] The competitive provisioning of xDSL services appears consistent with Congressional intent regarding innovation of advanced services. Arbitrary restrictions or restrictions unilaterally imposed by an ILEC should not be placed on the type of services that may be provisioned using copper loops. However, the Arbitrators find that the technologies deployed on copper loops must be in compliance with relevant national industry standards and/or requirements established during this Commission's § 271 proceeding, *e.g.*, standards set by the § 271 DSL Working Group.[29]

The Arbitrators find that SWBT provided no compelling evidence for its categorization of loop types, other than the distinction between 2-wire and 4-wire loops, which is not a disputed issue. SWBT bases its categorization on spectrum management issues, but provides no clear rebuttal to proposals that many types of xDSL technology can be placed on precisely the same "clean" copper pair. The Arbitrators do not believe that SWBT has demonstrated that Rhythms' "one size fits all" concept will not work, and find that a single xDSL capable UNE loop type is technically feasible, and is efficient both timewise and economically. The Arbitrators find that SWBT must offer a "2-wire xDSL loop" and a "4-wire xDSL loop" and cannot require the use of multiple xDSL-Capable loop offerings like the seven it proposed in these proceedings. In

---

[27] *UNE Remand Order* at ¶ 190.

[28] FTA § 706(a).

[29] *See* Project No. 16251, *Investigation of Southwestern Bell Telephone Company's Entry Into The Texas InterLATA Telecommunications Market*, Order No. 53, Approving Addition of DSL Attachment and Changes to Texas 271 Agreement (Sept. 22, 1999) ("T2A"). The § 271 DSL Working Group is referenced in Section 8.4 of Attachment 25 of the T2A. *See also* Project No. 16251, *Memorandum of Understanding*, filed by SWBT (Apr. 26, 1999) ("MOU").

addition, the Arbitrators find that the xDSL loop cannot be "categorized" based on loop length and limitations cannot be placed on the length of xDSL loops available to CLECs.

The Arbitrators find no reason to burden the definition of a "2-wire xDSL loop" with the complexities of spectrum compatibility and management. Nor should the definition of a "2-wire xDSL loop" include specifics regarding the issue of provisioning when fiber optic facilities are present, *e.g.*, remote placement of DSLAM equipment, "line and station transfers," sub-loop unbundling. Those issues are addressed separately in this Award, and the Parties should incorporate separately agreement language on those issues.

The Arbitrators, therefore, find that the definition of a "2-wire xDSL loop" shall be as follows:

> A 2-wire xDSL loop (xDSL Loop) for purposes of this section, is a loop that supports the transmission of Digital Subscriber Line (DSL) technologies. The loop is a dedicated transmission facility between a distribution frame, or its equivalent, in a SWBT central office and the network interface device at the customer premises. A copper loop used for such purposes will meet basic electrical standards such as metallic conductivity and capacitive and resistive balance, and will not include load coils or excessive bridged tap.[30] The loop may contain repeaters at [CLEC's] option. The loop cannot be "categorized" based on loop length and limitations cannot be placed on the length of xDSL loops. A portion of an xDSL loop may be provisioned using fiber optic facilities and necessary electronics to provide service in certain situations.

2(a). Can a clean copper loop support multiple xDSL technologies?

Parties' Positions

Rhythms contends that a clean copper loop can support many types of xDSL services, including ADSL, RADSL, SDSL, and HDSL technologies, and that IDSL can be deployed on copper or copper/fiber loop plant configurations.[31] Rhythms argues that there is no need for SWBT's elaborate binder group management (BGM) process, since xDSL technologies are

[30] Excessive bridged tap is defined as bridged tap in excess of 2,500 feet in length.

[31] ACI Exhibit 3, Direct Testimony of Rand Kennedy at 10-11 (Feb. 19, 1999).

designed to coexist with one another.[32] Rhythms contends that this has been proven in multiple jurisdictions, including California, Illinois, Massachusetts, and New York. Furthermore, Rhythms adds that deployment is imminent in New Jersey, Pennsylvania, Maryland, Virginia, and the District of Columbia.[33]

Rhythms insists that it does not seek a guarantee that the service it chooses to connect to the clean copper loop will work in all cases, or that it will be able to achieve a particular transmission rate. Rhythms seeks only a guarantee that the loop provided will be free of shorts, opens, or grounds, and that it will have acceptable metallic and electrical characteristics, including electrical conductivity and capacitive and resistive balance.[34]

Covad declares that it needs clean copper loops to deploy ADSL, SDSL, and IDSL in Texas.[35] Covad indicates that it is currently providing SDSL, IDSL, and ADSL services in Washington, California, New York, Massachusetts, Virginia, Maryland, Pennsylvania, New Jersey, Illinois, Michigan, and Washington, D.C.[36]

SWBT asserts that a "clean copper loop" is not a standard design facility in a traditional telephone network.[37] SWBT indicates that loops exist in a binder group within a cable, and while some binder groups could support one xDSL technology alongside other services, a different xDSL technology on the same pair in that same binder group may not be supportable. SWBT claims that the issue goes beyond the theoretical "clean cooper loop" but exists in a real world where multiple service providers share limited resources. Effective use of those resources, according to SWBT witness Mr. Deere, requires identification of the types of technologies

---

[32] ACI Exhibit 4, Direct Testimony of Philip Kyees at 7 (Feb. 19, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 6 (April 8, 1999).

[33] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 12 (Feb. 19, 1999).

[34] ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 8-9 (April 8, 1999); ACI Exhibit 4, Direct Testimony of Philip Kyees at 6 (Feb. 19, 1999).

[35] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5 (Feb. 19, 1999).

[36] Covad Exhibit 1, Direct Testimony of Charles A. Haas at 9 (Feb. 19, 1999); Tr. at 1169 (June 4, 1999).

[37] SWBT Exhibit 5, Direct Testimony of V. Allen Samson at 5 (Feb. 19, 1999).

supportable, the effect of those technologies, and then management of the outside plant to maximize service availability. It is SWBT's position that copper loops can be conditioned and managed to support multiple technologies only if those technologies are defined, inventoried separately, and managed according to appropriate spectrum guidelines.[38] SWBT therefore proposes that Petitioners be required to order from seven different xDSL loop types as defined by SWBT.

Award

The Arbitrators are not persuaded by SWBT's argument that various types of xDSL services cannot work on the same basic copper loop. SWBT's argument focuses instead on the categorization of services provided on these loops in order to manage spectrum and conditioning. Further, SWBT's categorization proposal is inefficient and unnecessary, and could lead to delays in and barriers to CLEC deployment of xDSL. Requiring Petitioners to order from seven different loop types as determined by SWBT has the potential to cause delay in the wholesale ordering and provisioning process.

The Arbitrators are concerned that SWBT has shown a clear tendency to oppose provision of multiple xDSL technologies provided by CLECs on SWBT's unbundled facilities. As an example, the following communication took place between SBC employees on March 16, 1998:

> *Message from C. Yackle to M. Russell, J. Thurwalker (Mar. 16, 1998, 10:58 a.m.):* Mark – Once again we may need some guidelines. We can't manage a million different technologies. We must unbundle what we offer not everything that anyone can think up. Today we use ISDN, HDSL and ADSL. We need guidelines for these. Jim – Can we maintain a position that we don't provide unbundled loops for technologies that we do not use?
>
> *Response from J. Thurwalker (March 16, 1998, 1:03 p.m.):* Cliff – Generally speaking, we've successfully defended our position of not providing unbundled loops for services which we did not provide under the argument that the technology issues have not been addressed, and as such we don't know what it will do to our network fabric.

[38] SWBT Exhibit 2, Direct Testimony of William C. Deere at 18 (Feb. 19, 1999).

> *Response from C. Yackle (March 16, 1998, 1:07 p.m.):* I suspect that we should begin to seriously consider how we are going to react as different CLECs want to utilize different technologies in our cable plant. I know that we are all fixing to get very busy but a consistent well thought out approach could avoid another problem like we face with Covad and others in California.[39]

Another example of SWBT's desire to limit CLEC services can be found in the July 21, 1998 minutes of the Network Evolution for Data Services (NERDS) committee. *See* Confidential Attachment B, Paragraph A.

Petitioners have demonstrated that clean copper loops are currently supporting multiple xDSL technologies in other jurisdictions.[40] Further, the FCC provides direction on this issue when describing methods to foster competitive deployment of innovative technologies for advanced services.[41] The evidence in this proceeding indicates that a clean copper loop (without load coils, excessive bridged tap, and within a specific design length) can support multiple xDSL technologies. The language adopted in the award for DPL Issue No. 1 is sufficient for the provision of xDSL services without SWBT's proposed categorizations.

2(b). If so, is SWBT required to provide a loop that can support more DSL technologies than ADSL, at the option of the CLEC?

Parties' Positions

Rhythms asserts that there is no technical basis on which SWBT can legitimately restrict Rhythms' use of a loop as SWBT has proposed, so long as Rhythms' deployment of xDSL technology complies with relevant national standards.[42] Rhythms states that SWBT's proposal to submit new xDSL products to a third-party laboratory for testing would serve only to delay introduction of new technologies and services.[43]

---

[39] Covad Exhibit 52.

[40] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 12 (Feb. 19, 1999); Covad Exhibit 1, Direct Testimony of Charles A. Haas at 9 (Feb. 19, 1999); Tr. at 1169 (June 4, 1999).

[41] *Advanced Services Order* at ¶ 63.

[42] ACI Exhibit 3, Direct Testimony of Rand Kennedy at 20 (Feb. 19, 1999).

[43] ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 12 (Apr. 8, 1999).

Covad contends that SWBT should not be able to limit the types of xDSL provided by a CLEC, except as determined by standards bodies. Covad provides examples of other ILECs that currently permit Covad to provide multiple xDSL services over clean copper loops.[44] Covad also indicates that the language of the *Advanced Services Order* supports its position. Covad points out that its interconnection agreement with SWBT affiliate Pacific Bell permits Covad to provide any kind of xDSL service over clean copper loops in Covad's California operations.[45] In addition, Covad indicates that it has never received a complaint regarding spectrum problems from Pacific Bell.[46]

SWBT asserts that its proposed interconnection language offers loops that support xDSL technologies other than ADSL.[47] SWBT contends that it must be informed of the particular type of xDSL technologies and/or services being provisioned over the network, and further needs assurance that the power and frequency being placed on a specific SWBT unbundled loop do not exceed standards for that particular service.[48] SWBT explains that it seeks only to appropriately test (by SWBT or a third party) different technologies until the industry standards bodies agree upon national standards. In the interim, SWBT indicates that its proposed language offers the option of testing and defining parameters with the CLEC for other technologies to be deployed and appropriately inventoried for spectrum management purposes in the network.[49]

Award

The Arbitrators find that SWBT must provide a loop that can support any xDSL technology that is "presumed acceptable for deployment," as described by the FCC or this Commission. The FCC has stated that a technology is "presumed acceptable for deployment" if it: (a) complies with existing industry standards; (b) has been successfully deployed by any

---

[44] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 9-11 (Feb. 19, 1999).

[45] Covad Exhibit 2, Direct Testimony of Druv Khanna at 26-27 (Feb. 19, 1999).

[46] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 11 (Feb. 19, 1999).

[47] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 7-8 (April 8, 1999).

[48] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 5 (Feb. 19, 1999).

carrier in any state without significantly degrading the performance of other services; or (c) has been approved by the FCC, any state commission, or an industry standards body.[50] A "non-standard xDSL-based technology" is a loop technology that is not presumed acceptable for deployment as defined in the previous sentence.

The Arbitrators further find that SWBT must provide a loop that is capable of supporting a non-standard xDSL technology, consistent with the conditions outlined in Attachment 25 of the Texas 271 Agreement (T2A).[51] Under those conditions, a CLEC may order loops to support a non-standard xDSL technology, for the provision of service in Texas on a trial basis for the 12-month period following the approval of the T2A, without the need to make any showing to the Commission or SWBT. Each technology trial shall not be deemed successful until it has been deployed without significant degradation for 12 months or until national standards have been established, whichever occurs first.

SWBT's plan to use testing to help define parameters for other technologies is no longer needed when considering the 12-month trial period established in the T2A. Therefore, SWBT's plan to await third party testing and national standards would only serve to impede rapid implementation of competitive xDSL services, and is therefore rejected by the Arbitrators.

In addition, the Arbitrators find that the deployment language contained in Sections 4.3.1 through 4.4.2.2 of Attachment 25 of the T2A, as adapted below (and coupled with the definitions of "presumed acceptable for deployment" and "non-standard xDSL-based technology" stated above), provides reasonable details for this DPL issue, and find that the following language should be included in the resulting Interconnection Agreements.

---

[49] *Id.* at Schedule 2.

[50] *See Advanced Services Order* at ¶ 67.

[51] T2A, Attachment 25, Section 4.3 states:

> 4.3 For the 12-month period following the approval of this Agreement by the Commission, a CLEC may order loops other than those loop technologies presumed acceptable for deployment for the provision of service in Texas on a trial basis, without the need to make any showing to the Commission. Each technology trial will not be deemed successful until it has been deployed without significant degradation for 12 months or until national standards have been established, whichever occurs first.

4.3.1 CLEC's deployment of non-standard xDSL technologies during the 12 month trial period by itself shall not be deemed a successful deployment of the technology under the FCC's Order issued on March 31, 1999 in CC Docket No. 98-147, FCC 99-48.

4.3.2 If a loop technology is deployed without significant degradation for 12 months, or if national standards for the technology are established, whichever occurs first, the Parties should consider the technology to be presumed acceptable for deployment and treated accordingly. If there is dispute as to the successful deployment of the technology, either Party may submit the dispute for resolution to (1) the Public Utility Commission of Texas, (2) the FCC if or when it establishes dispute resolution procedures, or (3) alternative dispute resolution as may be agreed by the Parties.

4.4 Following expiration of the twelve month trial period, SWBT will not deny a requesting CLEC's right to deploy new xDSL technologies that do not conform to the national standards and have not yet been approved by a standards body (or otherwise authorized by the FCC, any state commission or which have not been successfully deployed by any carrier without significantly degrading the performance of other services) if the requesting CLEC can demonstrate to the Commission that the loop technology will not significantly degrade the performance of other advanced services or traditional voice band services.

4.4.1 Upon request by CLEC, SWBT will cooperate in the testing and deployment of new xDSL technologies or may direct the CLEC, at CLEC's expense, to a third party laboratory of CLEC's choice for such evaluation.

4.4.2 If it is demonstrated that the new xDSL technology will not significantly degrade the other advanced services or traditional voice based services, SWBT will provide a loop to support the new technology for CLEC as follows:

4.4.2.1 If the technology requires the use of a 2-Wire or 4-Wire xDSL loop [as defined in this Award], then SWBT will provide CLEC with the xDSL loop at the same rates listed for a 2-Wire or 4-Wire xDSL loop and associated loop conditioning as needed. SWBT's ordering procedures will remain the same for its 2-Wire or 4-Wire xDSL loop even though the xDSL loop is now capable of supporting a new xDSL technology.

4.4.2.2 In the unlikely event that a new xDSL technology requires a loop type that differs from that of a 2-Wire or 4-Wire xDSL loop [as defined in this Award], the Parties shall expend diligent efforts to arrive at an agreement as to the rates, terms and conditions for an unbundled loop capable of supporting the proposed xDSL technology. If negotiations fail, any dispute between the Parties concerning the rates, terms and conditions for an unbundled loop capable of supporting the proposed xDSL technology shall be resolved pursuant to the dispute resolution process provided for in this Agreement.

2(c). Should CLECs provisioning non standard technologies be obligated to indemnify and hold SWBT harmless for any claims arising due to any harm or degradation to any carrier or customer's service and/or to SWBT's or any third party's network or equipment.

Parties' Positions

Rhythms addresses this issue obliquely by maintaining that there is no evidence of any harm from xDSL deployment in other states, and that SWBT's proposed restrictions would only serve to limit customer choice and competitive activity.[52] Rhythms adds that it is also concerned about the integrity of its own services, as well as potential harm to the integrity of any carrier's network. Rhythms points out that it has been providing xDSL services in California since 1997, and is not aware of any interference problems caused by Rhythms' xDSL services.[53]

Covad argues that CLECs should not be responsible for such indemnification. According to Covad witness Mr. Khanna, the FCC's directive[54] regarding CLEC deployment of technology is unconditional.[55] If a CLEC wants to deploy a non-standard technology, the CLEC must meet the requirements of the *Advanced Services Order*.[56] If SWBT or a CLEC subsequently demonstrates that the deployment of any technology "significantly degrades"[57] the performance of another advanced service or voice-based service, then the carrier deploying that technology must stop and migrate its customers to technologies that do not cause such degradation.[58] Covad asserts that this is the only remedy available to SWBT for the deployment by CLECs of technology that otherwise meets the criteria of Paragraph 68 of the *Advanced Services Order*.

---

[52] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 15 (Feb. 19, 1999).

[53] *Id.* at 16.

[54] *Advanced Services Order* at ¶ 67.

[55] Covad Exhibit 3, Rebuttal Testimony of Druv Khanna at 9-13 (Apr. 8, 1999).

[56] Covad Exhibit 3, Rebuttal Testimony of Druv Khanna at 9-10 (Apr. 8, 1999); *Advanced Services Order* at ¶ 69.

[57] The FCC has defined "significantly degrade" as an action that noticeably impairs a service from a user's perspective. *See Advanced Services Order* at n. 166.

[58] *Advanced Services Order* at ¶ 68.

Covad explains that all xDSL signals degrade other xDSL signals, but it is the degree of degradation that is at issue. According to Covad, SWBT's proposal for indemnification would always place liability on the "non-standard" service, even in a situation in which the carrier providing the "non-standard" service used prudent deployment rules, and the carrier providing the "standard" service did not use prudent deployment rules.[59]

SWBT's position is that CLECs should be responsible for any harm caused by the use of nonstandard technologies. On April 15, 1999, SWBT introduced a revised version of its proposed contract language regarding indemnification:

> Each Party agrees that should it cause any non-standard DSL technologies described in subsections II.B.1 and II.B.2 above to be deployed or used in connection with or on SWBT facilities, that Party ("the Indemnifying Party") will assume full and sole responsibility for any damage, service interruption or other telecommunications service degradation effects and will indemnify the other Party ("the Indemnified Party") for any damages to the Indemnified Party's facilities, as well as any other claims for damages, including but not limited to direct, indirect or consequential damages made upon the Indemnified Party by any provider of telecommunications services or telecommunications user (other than any claim for damages or losses alleged by an end-user of the Indemnified Party for which the Indemnified Party shall have sole responsibility and liability), when such arises out of, or results from, the use of such non-standard DSL technologies by the Indemnifying Party. Further, the Indemnifying Party agrees that it will undertake to defend the Indemnified Party against and assume payment for all costs or judgments arising out of any such claims made against the Indemnified Party.[60]

Award

The Arbitrators note that this issue has been recently addressed by this Commission in its adoption of the T2A. T2A Attachment 25, Sections 3.4 and 3.5, contain the liability and indemnification language shown below. In DPL Issue No. 2(b), the Arbitrators distinguished between technologies that are presumed acceptable for deployment and those that are considered non-standard. The Arbitrators find that the T2A language reasonably reflects the balance of liability required for the provision of non-standard xDSL services (*i.e.*, those not defined as

---

[59] DPL at 7 (May 28, 1999).

"presumed acceptable for deployment"). Therefore, the following language should be incorporated into the resulting Interconnection Agreements:

> Each Party, whether a CLEC or SWBT, agrees that should it cause any non-standard xDSL technologies to be deployed or used in connection with or on SWBT facilities, that Party ("Indemnifying Party") will pay all costs associated with any damage, service interruption or other telecommunications service degradation, or damage to the other Party's ("Indemnitee") facilities.
>
> CLEC's use of any SWBT network element, or of its own equipment or facilities in conjunction with any SWBT network element, will not materially interfere with or impair service over any facilities of SWBT, its affiliated companies or connecting and concurring carriers involved in SWBT services, cause damage to SWBT's plant, impair the privacy of any communications carried over SWBT's facilities or create hazards to employees or the public. Upon reasonable written notice and after a reasonable opportunity to cure, SWBT may discontinue or refuse service if CLEC violates this provision, provided that such termination of service will be limited to CLEC's use of the element(s) causing the violation. SWBT will not disconnect the elements causing the violation if, after receipt of written notice and opportunity to cure, the CLEC demonstrates that their use of the network element is not the cause of the network harm. If SWBT does not believe the CLEC has made the sufficient showing of harm, or if CLEC contests the basis for the disconnection, either Party must first submit the matter to dispute resolution. Any claims of network harm by SWBT must be supported with specific and verifiable supporting information.
>
> Indemnification
>
> Covered Claim: Indemnifying Party will indemnify, defend and hold harmless Indemnitee from any claim for damages, including but not limited to direct, indirect or consequential damages, made against Indemnitee by any telecommunications service provider or telecommunications user (other than claims for damages or other losses made by an end-user of Indemnitee for which Indemnitee has sole responsibility and liability), arising from, the use of such non-standard xDSL technologies by the Indemnifying Party.
>
> Indemnifying Party is permitted to fully control the defense or settlement of any Covered Claim, including the selection of defense counsel. Notwithstanding the foregoing, Indemnifying Party will consult with Indemnitee on the selection of defense counsel and consider any applicable conflicts of interest. Indemnifying Party is required to assume all costs of the defense and any damages resulting from the use of any non-standard xDSL technologies in connection with or on

[60] SWBT Exhibit No. 22, SWBT Proposal with Respect to the Application of Specific Indemnity Language in SWBT's Proposed Language (April 15, 1999); DPL at 16 (May 28, 1999).